



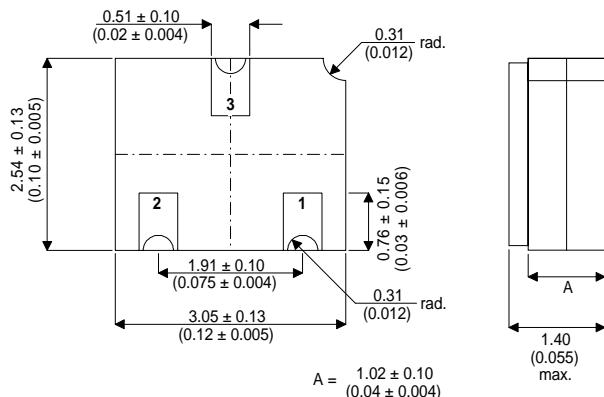
**SEME  
LAB**

**2N4393CSM**

**SMALL SIGNAL  
N-CHANNEL J-FET IN A  
HERMETICALLY SEALED  
CERAMIC SURFACE MOUNT PACKAGE  
FOR HIGH RELIABILITY APPLICATIONS**

## Mechanical Data

Dimensions in mm (inches)



### **Underside View**

## PAD 1 – Source

## PAD 2 – Drain

PAD 3 – Gate

# SOT23 CERAMIC (CSM) LCC1 PACKAGE

## FEATURES

- HERMETIC CERAMIC SURFACE MOUNT PACKAGE (SOT23 COMPATIBLE)
  - CECC SCREENING OPTIONS
  - SPACE QUALITY LEVELS OPTIONS

## **APPLICATIONS:**

**Hermetically sealed surface mount version  
of the popular 2N4393 for high reliability /  
space applications requiring small size  
and low weight devices.**

## **ABSOLUTE MAXIMUM RATINGS** ( $T_{amb} = 25^\circ\text{C}$ unless otherwise stated)

		( $\text{A} \cdot \text{m}^2$ )
$V_{GD}$	Gate – Drain Voltage	-35V
$V_{GS}$	Gate – Source Voltage	-35V
$I_G$	Gate Current	50mA
$P_D$	Power Dissipation	350mW
	Derate	2.8mW / °C
$T_j$	Operating Junction Temperature Range	-55 to 150°C
$T_{stg}$	Storage Temperature Range	-55 to 150°C



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**ELECTRICAL CHARACTERISTICS** ( $T_{amb} = 25^\circ C$  unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
<b>STATIC CHARACTERISTICS</b>					
$V_{(BR)GSS}$	Gate – Source Breakdown Voltage	$V_{DS} = 0V$	$I_G = -1\mu A$	-35	-55
$V_{GSS(off)}$	Gate – Source Cut-off Voltage	$V_{DS} = 15V$	$I_D = 10nA$	-0.5	-3
$I_{DSS^*}$	Saturation Current	$V_{DS} = 20V$	$V_{GS} = 0V$	5	
$I_{GSS}$	Gate Reverse Current	$V_{GS} = -5V$		-5	-100
		$V_{DS} = 0V$	$T_{amb} = 125^\circ C$	-3	-200
		$V_{DG} = 10V$	$V_{GS} = -10V$	5	100
$I_{D(off)}$	Drain Cut-off Current	$V_{DS} = 10V$	$V_{GS} = -10V$		
			$T_{amb} = 125^\circ C$	3	200
$V_{DS(on)}$	Drain – Source On Voltage	$V_{GS} = 0V$	$I_D = 3mA$	0.25	0.4
$R_{DS(on)}$	Drain – Source On Resistance	$V_{GS} = 0V$	$I_D = 1mA$		100
<b>DYNAMIC CHARACTERISTICS</b>					
$R_{DS(on)}$	Drain – Source On Resistance	$V_{GS} = 0V$ $f = 1kHz$	$I_D = 0mA$		100
$C_{ISS}$	Common – Source Input Capacitance	$V_{DS} = 20V$ $f = 1MHz$	$V_{GS} = 0V$	13	16
$C_{RSS}$	Common – Source Reverse Transfer Capacitance	$V_{DS} = 0V$ $f = 1MHz$	$V_{GS} = -5V$	4	5
$\bar{e}_n$	Equivalent Input Noise Voltage	$V_{DG} = 10V$ $f = 1kHz$	$I_D = 10mA$	3.0	$\frac{nV}{\sqrt{Hz}}$